Rocky Flats Environmental Technology Site

TYPE 1
RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

TRAILER T130A CLOSURE PROJECT

July 26, 2005

REVISION 0

CLASSIFICATION REVIEW NOT REQUIRED PER EXEMPTION NUMBER CEX-005-02

1/43

TYPE 1
RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

TRAILER T130A CLOSURE PROJECT

July 26, 2005

REVISION 0

Reviewed by: R D Plappert Date: 8/1/05
Robert Plappert, Quality Assurance

Reviewed by: D P Snyder Date: 8/1/05
D.P. Snyder, RISS ESH&Q Manager

Approved by: J. C Herbst for Date: 8/1/05
Mike Swartz, K-H D&D Project Manager

TABLE OF CONTENTS

ATTACHMENTS

ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total surface activity
VOCs	Volatile organic compounds

EXECUTIVE SUMMARY

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the DPP (10/8/98) and compliant disposition and waste management of Trailer T130A. Because this facility was an anticipated Type 1 facility, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). All facility surfaces were characterized in this RLC, including the floors, walls, and ceilings. Environmental media beneath and surrounding the facility was not within the scope of this RLCR and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

The RLC encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Reports.

Results indicate that no radiological contamination exists in excess of the PDSP unrestricted release limits of DOE Order 5400.5. Representative laboratory results of building materials suspected of containing asbestos were "None Detected." All beryllium sample results were less than 0.1 $\mu g/100cm^2$. Based upon this RLCR, Trailer T130A is considered a Type 1 facility and can be demolished. To ensure the facility remains free of contamination and RLC data remain valid, Level 2 Isolation Controls have been established and the facility posted accordingly.

1 INTRODUCTION

A Reconnaissance Level Characterization (RLC) was performed to enable compliant disposition and waste management of Trailer T130A. Because this facility was an anticipated Type 1 facility, a PDS characterization was performed. All facility surfaces were characterized in this RLC, including the floors, walls, and ceilings. Exterior radiological surveys for Trailer T130A were performed as part of the West Side Exterior PDS Report, which was approved on March 24, 2005 by DOE and CDPHE. The West Side Exterior PDS Report confirmed that the exterior surfaces of Trailer T130A do not contain radiological contamination above the surface contamination guidelines provided in the PDSP. Environmental media beneath and surrounding the facility was not within the scope of this RLC Report (RLCR) and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed. Among these is Trailer T130A. The location of this facility is shown in Attachment A, *Facility Location Map*. This facility no longer supports the RFETS mission and needs to be removed to reduce Site infrastructure, risks and/or operating costs.

Before the facility can be removed, a Pre-Demolition Survey (PDS) must be conducted; this document presents the PDS results. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS built upon physical, chemical and radiological hazards identified in the facility-specific *Historical Site Assessment Report for the Area 5 - Group 6 Facilities*, dated September 2002, Revision 0.

1.1 Purpose

The purpose of this report is to communicate and document the results of the RLC effort. A RLC is performed before building demolition to define the pre-demolition radiological and chemical conditions of a facility. The pre-demolition conditions are compared with the release limits for radiological and non-radiological contaminants. RLC results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the pre-demolition radiological and chemical conditions of Trailer T130A. Environmental media beneath and surrounding the facility is not within the scope of this RLCR and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this RLC were the same DQOs identified in the Pre-Demolition survey Plan for D&D Facilities (MAN-127-PDSP.) Refer to section 2.0 of MAN-127-PDSP for these DQOs.

6

2 HISTORICAL SITE ASSESSMENT

A facility-specific Historical Site Assessment (HSA) was conducted in September 2002 to understand the facility history and related hazards. The assessment consisted of facility walkdowns, interviews, and document review, including review of the Historical Release Report (refer to the D&D Characterization Protocol, MAN-077-DDCP). Results were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. Results of the facility-specific HSA were documented in a facility-specific *Historical Site Assessment Report for the Area 5-Group 6 Facilities*, Dated September 2002, Revision 0. Refer to Attachment B, *Historical Site Assessment Report,* for a copy of the Trailer T130A HSAR. In summary, the HSAR identified a low potential for radiological, chemical, beryllium or asbestos hazards.

Since the HSAR was performed, Trailer T130A was converted into a temporary laboratory, and sample shipping and receiving facility in 2004. Although high activity samples were never analyzed in the trailer, some low activity samples were prepared and analyzed in the trailer. During the conversion of the trailer into a temporary laboratory, fume hoods with HEPA exhaust systems were installed in some of the laboratory rooms. Most of the HEPA exhaust system was removed from the building prior to the performance of this RLC. No contamination was ever found or identified in the removed HEPA exhaust system or the remaining fume hoods.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

Trailer T130A was characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, building walk-downs, and MARSSIM guidance, Radiological Characterization Plans were developed during the planning phases that describe the minimum survey requirements (refer to the RISS Characterization Project files).

One radiological survey package (130A01) was developed for the interior of Trailer T130A. The survey package was developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Survey Unit 130A01 is a MARSSIM Class 3 area due to the low potential for radiological contamination in Trailer T130A. In 2004, T130A was converted into a sample shipping and receiving facility including two labs for radioactive analysis of low-level samples. No area of T130A was ever posted a Contamination Area or Radiological Buffer Area. All samples were doubled bagged and the packaging was surveyed for loose contamination prior to entry to T130A. Samples were then either shipped to an off-site lab, analyzed using gamma spectroscopy or counted in the low-level lab. The only potential for radioactive contamination was in the Low Level lab area (rooms 52, 52A, 53 and 54). Routine surveys for radioactive contamination were conducted weekly throughout T130A by Rad Ops RCTs. Low Level lab technicians continuously checked for radioactive contamination prior to and after every set of analyses. No loose activity was ever detected by either of these groups. Thus, since T130A never had any spread of contamination, the MARSSIM Class 3 designation is appropriate.

1

Total surface activity (TSA), removable surface activity (RSA), and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*. Radiological survey data, statistical analysis results, and survey locations are presented in Attachment C, Radiological Data Summary and Survey Maps. The radiological survey unit package is maintained in the RISS Characterization Project files.

Seventy-four (74) TSA measurements (22 random, 50 biased and 2 QC) and seventy-two (72) RSA measurements (22 random and 50 biased) were performed; and 5% of all remaining interior surfaces of the facility were scanned. Additional scan surveys were conducted on the floors, workbenches, desks and other horizontal surfaces in the shipping and receiving and lab areas. Several pieces of lab equipment were released through the Property Release Evaluation process in the four weeks prior to the RLC and no contamination above RFETS release limits was detected. The RLC data confirmed that this facility does not contain radiological contamination above the surface contamination guidelines provided in the PDSP. Radiological survey data, statistical analysis results, and survey locations are presented in Attachment C, *Radiological Data Summary and Survey Maps*. The radiological survey unit package is maintained in the RISS Characterization Project files. Level 2 Isolation Control postings are displayed on the building to ensure no radioactive materials are inadvertently introduced.

Exterior radiological surveys for Trailer T130A were performed as part of the West Side Exterior PDS Report, which was approved on March 24, 2005 by DOE and CDPHE. The West Side Exterior PDS Report confirmed that the exterior surfaces of Trailer T130A do not contain radiological contamination above the surface contamination guidelines provided in the PDSP. The West Side Exterior PDS Report and survey data, statistical analysis results, and survey map locations are maintained in the RISS Characterization Project files

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Trailer T130A was characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on or in the facility. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan (refer to RISS Characterization Project files) was developed during the planning phase that describes sampling requirements, the justification for the sample locations and estimated sample numbers. Contaminants of concern included asbestos, beryllium, RCRA/CERCLA constituents, and PCBs.

8

4.1 Asbestos

The T130 Trailer Complex (Trailers T130A through T130J) are identical 15,400 square-foot trailers acquired in 1991 from the same manufacturer (refer to Attachment B, Historical Site Assessment Report). Building materials sampled for asbestos in one trailer, therefore, would be representative of the asbestos content for the same materials in the other trailers. Thus, bulk samples taken in one trailer would be representative of bulk samples taken in another trailer. A survey of building materials suspected of containing asbestos was conducted in Trailers T130D and T130E as part of the Area 5 – Group 6a RLCR, dated April 15, 2003. A CDPHE-certified asbestos inspector conducted the inspection and sampling in accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1.* Building materials suspected of containing asbestos were identified for sampling at the discretion of the inspector. Four (4) samples each were taken in Trailers T130D and T130E and all laboratory results of building materials suspected of containing asbestos were "None Detected". Because trailers T130D and T130E are representative of the same materials in T130A, it is assumed there is no asbestos containing materials in T130A. On this basis, no asbestos sampling was performed in T130A as part of the RLC.

4.2 Beryllium (Be)

Based on the HSAR and personnel interviews, Trailer T130A was an anticipated Type 1 facility. There was not, however, adequate historical and process knowledge to conclude that beryllium was not used or stored in this building. Therefore, biased beryllium sampling was performed in accordance with the PDSP and the *Beryllium Characterization Procedure, PRO-536-BCPR, Revision 0, September 9, 1999.* Biased sample locations corresponded with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition.

All beryllium smear sample results were less than 0.1 $\mu g/100cm^2$. Beryllium laboratory sample data and location maps are contained in Attachment D, *Chemical Data Summaries and Sample Maps*.

4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on a review of the HSAR and a facility walk-down, Trailer T130A was used primarily as an office trailer. The only RCRA/CERCLA concern would be in the lab area where nitric acid, hydrochloric acid, sulfuric acid and sodium hydroxide pellets were used to preserve the water samples. There is no history or evidence of contamination from the laboratory activities, therefore, RCRA/CERCLA constituent sampling was not performed in this facility as part of the RLC.

RCRA regulated materials such as fluorescent lights, mercury switches and circuit boards may have been installed in T130A. Therefore, a thorough inspection of the facility will be made for regulated materials and these materials will be removed and properly disposed of prior to demolition.

9

4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSARs, interviews and facility walk-downs of Trailer T130A, no PCB-containing equipment was ever present in the building, making the potential for PCB contamination resulting from spills highly unlikely. Therefore, PCB sampling was not performed in Trailer T130A as part of the RLC. Based on the age of Trailer T130A (constructed after 1980), paints used do not contain PCBs. Additionally, there are no suspected PCB light ballasts in this facility. However, all light ballasts will be inspected and if leaking PCB ballasts are discovered, they will be removed and managed accordingly.

5 PHYSICAL HAZARDS

Physical hazards associated with Trailer T130A consist of those common in standard industrial environments and include hazards associated with energized systems, utilities, and trips and falls. The facility has been relatively well maintained and is in good physical condition, and therefore, does not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Trailer T130A, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments C and D) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original DQOs of the project.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- the *number* of samples and surveys;
- the *types* of samples and surveys;
- the sampling/survey process as implemented "in the field"; and,
- the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment E, *Data Quality Assessment Detail.*

10

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of Trailer T130A will generate sanitary waste. Estimated waste volumes are presented below. All waste can be disposed of as sanitary waste, there is no radioactive or hazardous waste.

Waste Volume Estimates and Material Types – Trailer T130A

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste
T130A	0	3,500	1,500	3,000	4,500	0	None

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Trailer T130A is classified as a RFCA Type 1 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999) and can be demolished. The Type 1 classification is based on a review of historical and process knowledge, and newly acquired RLC/PDS data.

The RLC of Trailer T130A was performed in accordance with the DDCP and PDSP. All PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. Trailer T130A did not contain radiological or hazardous waste. Environmental media beneath and surrounding the facility will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA. To ensure this Trailer T130A remains free of contamination, Level 2 Isolation Controls have been established with the required postings.

9 REFERENCES

DOE/RFFO, CDPHE, EPA, 1996. Rocky Flats Cleanup Agreement (RFCA), July 19, 1996.

DOE Order 5400.5, "Radiation Protection of the Public and the Environment."

EPA, 1994. "The Data Quality Objective Process," EPA QA/G-4.

K-H, 1999. Decommissioning Program Plan, June 21, 1999.

MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001.

MAN-076-FDPM, *Facility Disposition Program Manual*, Rev. 3, January 1, 2002.

MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 3, July 15, 2002.

MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002.

MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual, August 2000, Revision 1 (NUREG-1575, EPA 402-R-97-016).

PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure,* Rev. 1, May 22, 2001.

PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev. 1, May 22, 2001.

PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001.

PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001.

PRO-563-ACPR, Asbestos Characterization Procedure, Revision 0, August 24, 1999.

PRO-536-BCPR, Beryllium Characterization Procedure, Revision 0, August 24, 1999.

RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.

RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.

RFCA Standard Operation Protocol for Recycling Concrete, September 28, 1999.

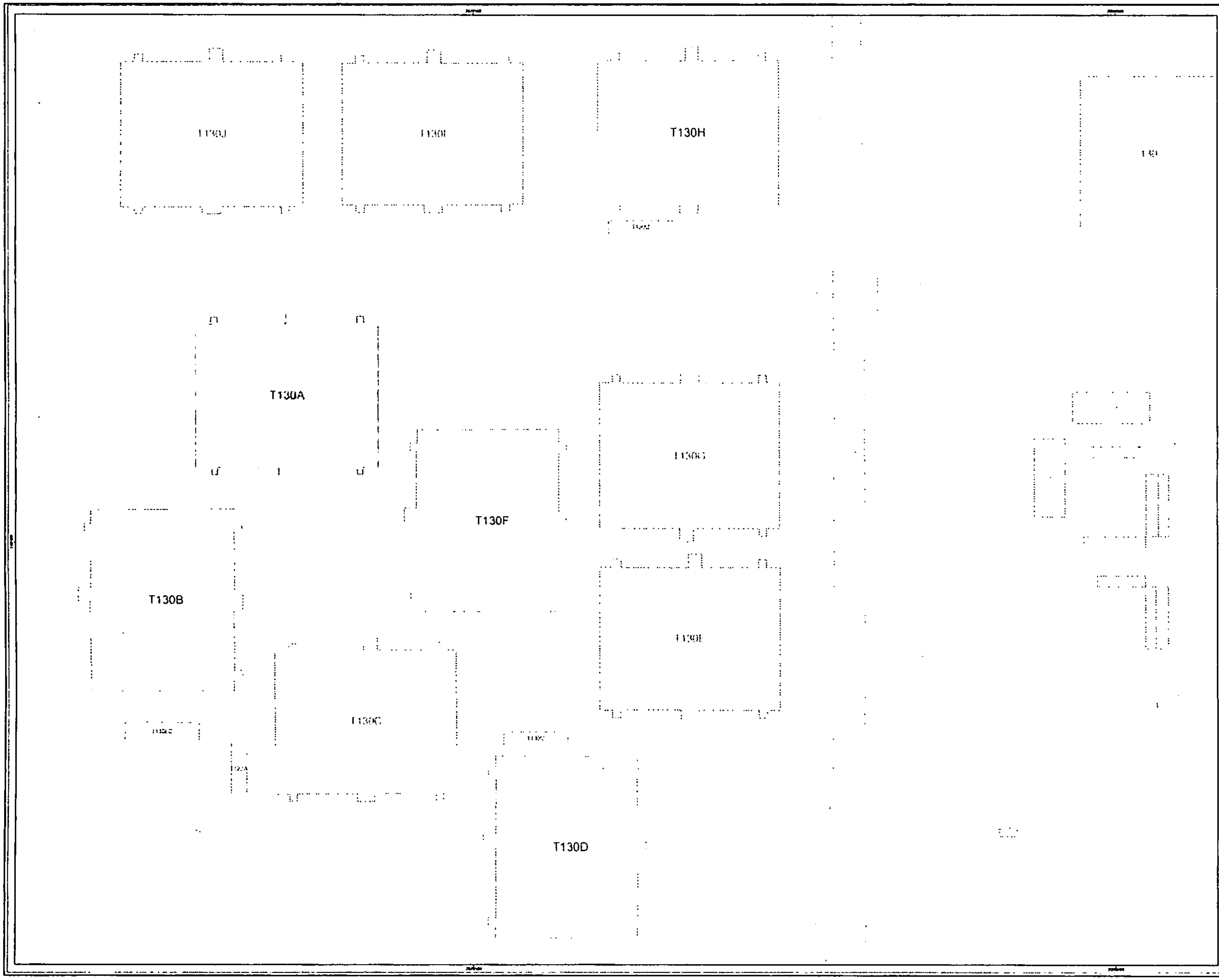
Historical Site Assessment Report for the Area 5-Group 6 Facilities, dated September 2002, Revision 0.

12

ATTACHMENT A

Facility Location Map

14



Rocky Flats Environmental Technology Site

T130A Location Map

Standard Map Features

- Demolished Facility
- Lakes and Ponds
- Demolished Roads
- Paved Roads
- Dirt Roads
- Railroad Removed
- Railroad Remaining
- Fence Remaining
- Streams, Ditches, or Other Drainage Features
- Remaining Facilities
- T130A

N

30 0 30 60 90 120 Feet

State Plane Coordinate Projection
Colorado Central Zone (3476)
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared By: CH2MHILL
GIS DEPT. (303) 966-7707

Prepared For: KAISER-HILL COMPANY

DATE: 8/1/2005

ATTACHMENT B

Historical Site Assessment Report

D&D RISS Facility Characterization
Historical Site Assessment Report
September, 2002 Rev. 0

Facility ID: (AREA 5 GROUP 6) Trailers T130 A, B, C, D, E, F, G, H, I, and J.
Anticipated Facility Type (1, 2, or 3): Trailers T130 A, B, C, D, E, F, G, H, I, and J are anticipated Type 1 facilities.

This facility-specific Historical Site Assessment (HSA) has been performed in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Physical Description

Trailers T130 A, B, C, D, E, F, G, H, I and J.

The T130 Trailers are identical trailers. These trailers are each 15,400 square-foot general office trailers and were acquired in 1991. These modular trailers are each approximately 120-feet wide by 130-feet long. Each trailer has corrugated metal siding with corrugated metal skirting. The entrances have wooden stairs leading to a wooded enclosure.

The interiors are primarily a cubical layout, but have several hard-walled offices, conference rooms, and rest rooms. Interior walls are wallboard, the ceiling is a drop ceiling with acoustical tiles and recessed lights. The floors are primarily covered with carpet except in the bathrooms and dock entranceways, which are covered with vinyl tile.

The T130 Trailers each have the following utilities: electrical, plant water, plant sanitary, and fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

Historical Operations

The T130 trailers we originally installed to support the RFETS Resumption activities in the early 1990s. In the mid 1990s the trailer began housing other management and administrative support operations in support of the site closure goals. Over the last few years, as field trailers from inside the Industrial Zone have been removed, more field activities have been moved into the T130 trailers. On occasion, some trailers have set up RMS to store test sealed sources or to store environmental samples that may contain very low levels of chemical or radiological activity.

Trailers T130A, B, E, and I have recently set up RMAs for the storage of sealed test sources in support of field activities. The site photographic department has recently moved to T130 and established a Satellites Accumulation Area to handle it photo-developing waste. There has been no evidence of building contamination associated with these activities. The remaining Trailers addressed in the HSA (T130C, D, F, H, and J) have primarily been used for management or administrative uses.

16

Currently T130A houses field sampling operation , the Canberra analytical organization, and the BioAssay receiving and shipping operations. A RMA was established to support these activities in 2002. T130B houses Rad Safety and Rad Engineering and established a RMA in 2000. T130C houses general management and administrative activities such as Analytical Services, Waste Shipping support personnel, Ecology, and Regulatory Compliance. T130D houses general management and administrative activities such as Rocky Flats Site Closure Services senior management, Legal, and Project Controls. T130E houses the SteelWorkers Union, Emergency Preparedness and the Radiological Assistance Team (RAP Team). An RMA was established in the early 1990s to house sealed sources and emergency response radiological equipment. T130F houses general management and administrative activities such as TRU Waste Programs and Materials Stewardship. T130G houses general management and administrative activities, CERCLA Records, document control, and Analytical Serviced document management. In 2002, the Photography department was moved to T130G. A Satellites Accumulation Area was established to handle the Photo-developing waste. T130H houses general management and administrative activities such as KH Construction. T130I houses general management and administrative activities such as Telecommunications, Computer Support, and RISS Radiological Support personnel. An RMA was established in 2002 to support RISS Radiological Support operations. T130J houses general management and administrative activities such as Bartlett Janitorial Services, Roads and Grounds, RISS Industrial Hygiene, and RISS support personnel.

Current Operational Status

The T130 A, B, C, D, E, F, G, H, I and J trailers are all currently operational

Contaminants of Concern

Asbestos

Describe any potential, likely, or known sources of Asbestos:

None of the trailers addressed in this HSA have an asbestos posting. The Industrial Hygiene Group (IH) has collected some asbestos data on the T130 office trailers. Contact IH for a copy of this information.

Beryllium (Be)

Describe any potential, likely, or known Be production or storage locations:

None of the Trailers addressed in this HSA are on the List of known Be Areas.

Summarize any recent Be sampling results:

There have been no recent Be samples collected on any of these facilities.

Lead

Describe any potential, likely, or known sources of Lead (e.g., paint, shielding, etc.):

Based on the age of some of the trailers addressed in this HSA, lead in paint should not be a concern. No processes containing lead were conducted in these trailers.

17

RCRA/CERCLA Constituents

Describe any potential, likely, or known sources of RCRA/CERCLA constituents (e.g., chemical storage, waste storage, and processes):

In 2002, the Photography department was moved into T130G. A Satellites Accumulation Area was established to handle it Photo-developing waste. Canberra Mobile Services has a chemical cabinet to store acid and base ampules used to preserve some water samples.

See the Historical operations section above for a more detailed listing of the operations which occurred in the facilities addressed in this HSA.

Describe any potential, likely, or known spill locations (and sources, if any):

None of the facilities in this HSA have had any RCRA/CERCLA spills.

Describe methods in which spills were mitigated, if any:

None of the facilities in this HSA have had any RCRA/CERCLA spills.

PCBs

Describe any potential, likely, or known sources of PCBs (e.g., light ballasts, paints, equipment, etc.):

No PCB containing process where housed in any of the Trailers addressed in this HSA. Based on the age of construction of some of these facilities, PCBs in paint should not be a concern.

Describe any potential, likely, or known spill locations (and sources, if any):

No PCB spills occurred in any of the Trailers addressed in this HSA.

Describe methods in which spills were mitigated, if any:

No PCB spills occurred in any of the Trailers addressed in this HSA.

18

Radiological Contaminants

Describe any potential, likely, or known radiological production or storage locations:

None of the Trailers in this HSA are radiological posted. However, several of the Trailers addressed in this HSA have RMAs established in them. In addition, Trailer T130A houses the field sampling operations and also houses Canberra Gamma Spectroscopy operations. There is no evidence of building contamination associated with these activities. See the Historical operations section above for a more detailed listing of the operations which occurred in the facilities addressed in this HSA.

Describe any potential, likely, or known spill locations (e.g., known leaking sealed radioactive sources, leaking waste drums, potentially contaminated drains, etc.):

Except as noted in the historical operations section above radiological material has no routinely stored or handled in any of the facilities addressed in this HSA.

Describe methods in which spills were mitigated, f any:

None of the facilities in this HSA have had a radiological spill.

Describe any potential, likely, or known isotopes of concern (e.g., weapons grade plutonium, uranium isotopes, pure beta emitters, mixed fission products, etc.):

Isotopes of concern include uranium and plutonium.

Describe any potential, likely, or known external facility contamination (e.g., stack release points, unfiltered ventilation, facility's physical location to known site releases, etc.):

See section below for information on IHSSs PACs, and UBCs.

Environmental Restoration Concerns

Describe any ER concerns that could affect facility characterization (e.g., IHSSs, PACs, UBCs):

None of the Trailers addressed in this HSA are associated with any IHSSs, PACs, or UBCs.

Additional Information

Describe any additional information that may be useful during facility characterization (e.g., contaminant migration routes, waste handling operations, physical hazards, Historical Release Reports, WSRIC data, etc.):

None

References

Provide all sources of information utilized to gather data for facility history (e.g., documents, files, interviews):

Sources reviewed to complete this HSA were the RFETS Facility List, the Historical Release Report, Site Master List of RCRA Units, and the Site IHSS, PAC, and UBC databases. The WSRIC for those buildings with a WSRIC. In addition, a facility walkdown and interviews were performed.

Waste Volume Estimates and Material Types

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
Trailer T130A	0	3500	1500	3000	4500	TBD	N/A
Trailer T130B	0	3500	1500	3000	4500	TBD	N/A
Trailer T130C	0	3500	1500	3000	4500	TBD	N/A
Trailer T130D	0	3500	1500	3000	4500	TBD	N/A
Trailer T130E	0	3500	1500	3000	4500	TBD	N/A
Trailer T130F	0	3500	1500	3000	4500	TBD	N/A
Trailer T130G	0	3500	1500	3000	4500	TBD	N/A
Trailer T130H	0	3500	1500	3000	4500	TBD	N/A
Trailer T130I	0	3500	1500	3000	4500	TBD	N/A
Trailer T130J	0	3500	1500	3000	4500	TBD	N/A

Further Actions

Recommend any further actions, if any (e.g., characterization, decontamination, special handling, etc.):

Begin the RLC/PDS process.

Note:

This HSA was performed prior to SME walkdowns, and chemical and radiological characterization package preparations. SMEs should evaluate and/or verify all information during the RLC/PDS process. SMEs may need to review additional documentation and perform additional interviews. Information contained in this HSA only represents a "snapshot" in time. Subsequent data may be obtained during SME walkdowns and chemical and radiological characterization package preparations, which may conflict with this report. However, this report will not be amended, and the newer data will take precedence over the data in this report. Newer Data will appear in the RLCR/PDSR.

Prepared By: Doug Bryant / Doug Bryant / September 2002

Name Signature Date

20

ATTACHMENT C

Radiological Data Summaries and Survey Maps

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T130A Interior, all surfaces

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 22 | Nbr Biased Measurements Required: 50 | Nbr QC Required: 2

Nbr Random Measurements Performed: 22 | Nbr Biased Measurements Performed: 50 | Nbr QC Performed: 2

Alpha

Maximum:	31.3 dpm/100cm²
Minimum:	-10.2 dpm/100cm²
Mean:	5.6 dpm/100cm²
Standard Deviation:	8.7
QC Maximum:	18.3 dpm/100cm²
QC Minimum:	3.1 dpm/100cm²
QC Mean:	10.7 dpm/100cm²
Transuranic $DCGL_W$:	100.0 dpm/100cm²
Transuranic $DCGL_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 22 | Nbr Biased Measurements Required: 50

Nbr Random Measurements Performed: 22 | Nbr Biased Measurements Performed: 50

Alpha

Maximum:	3.3 dpm/100cm²
Minimum:	-1.2 dpm/100cm²
Mean:	-0.1 dpm/100cm²
Standard Deviation:	1.1
Transuranic $DCGL_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

22

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T130A Interior, all surfaces

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511466	07/18/05	Electra	1249	DP-6	12/09/05	0.210	NA	48.0	NA	T/S
2	510643	07/18/05	Electra	1681	DP-6	09/08/05	0.223	NA	48.0	NA	T/S
3	510643	07/18/05	SAC-4	1044	NA	11/30/05	0.330	NA	10.0	NA	R
4	511466	07/25/05	Electra	3104	DP-6	09/24/05	0.219	NA	48.0	NA	T/S
5	513922	07/25/05	Electra	3252	DP-6	12/08/05	0.210	NA	48.0	NA	T/S
6	513922	07/25/05	SAC-4	1044	NA	11/30/05	0.330	NA	10.0	NA	R
7	513922	07/26/05	Electra	2344	DP-6	09/30/05	0.221	NA	48.0	NA	T/Q/S
8	511466	07/26/05	Electra	3104	DP-6	09/24/05	0.219	NA	48.0	NA	T/Q/S
9	513922	07/26/05	SAC-4	835	NA	12/08/05	0.330	NA	10.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T130A Interior, all surfaces

Comments Sheet

General Comments: N/A

TSA Comments: For instruments that were used for both TSAs and scans (T/S) on the Instrument Data Sheet, The TSA A-Priori MDA is 48.0 and the scan A-Priori MDA is 300.0.

Additional alpha scan surveys were performed inside vent hoods and on workbenchs in the lab areas. No elevated count rates above the DCGLs were detected.

RSA Comments: N/A

Media Comments: N/A

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T130A Interior, all surfaces

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
130A01PRP-N001	6	0.9	N/A	N/A
130A01PRP-N002	6	2.4	N/A	N/A
130A01PRP-N003	3	0.3	N/A	N/A
130A01PRP-N004	6	-0.6	N/A	N/A
130A01PRP-N005	3	-1.2	N/A	N/A
130A01PRP-N006	3	-1.2	N/A	N/A
130A01PRP-N007	6	-0.6	N/A	N/A
130A01PRP-N008	6	-0.6	N/A	N/A
130A01PRP-N009	3	-1.2	N/A	N/A
130A01PRP-N010	3	-1.2	N/A	N/A
130A01PRP-N011	6	0.9	N/A	N/A
130A01PRP-N012	6	2.4	N/A	N/A
130A01PRP-N013	6	-0.6	N/A	N/A
130A01PRP-N014	3	0.3	N/A	N/A
130A01PRP-N015	6	2.4	N/A	N/A
130A01PRP-N016	6	-0.6	N/A	N/A
130A01PRP-N017	3	-1.2	N/A	N/A
130A01PRP-N018	6	0.9	N/A	N/A
130A01PRP-N019	3	0.3	N/A	N/A
130A01PRP-N020	3	-1.2	N/A	N/A
130A01PRP-N021	3	-1.2	N/A	N/A
130A01PRP-N022	3	-1.2	N/A	N/A

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T-130A Interior, all surfaces

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
130A01PBP-N023	3	-1.2	N/A	N/A
130A01PBP-N024	3	0.3	N/A	N/A
130A01PBP-N025	3	-1.2	N/A	N/A
130A01PBP-N026	3	3.3	N/A	N/A
130A01PBP-N027	3	-1.2	N/A	N/A
130A01PBP-N028	3	0.3	N/A	N/A
130A01PBP-N029	3	0.3	N/A	N/A
130A01PBP-N030	3	-1.2	N/A	N/A
130A01PBP-N031	3	-1.2	N/A	N/A
130A01PBP-N032	3	-1.2	N/A	N/A
130A01PBP-N033	3	-1.2	N/A	N/A
130A01PBP-N034	6	-0.6	N/A	N/A
130A01PBP-N035	6	-0.6	N/A	N/A
130A01PBP-N036	6	-0.6	N/A	N/A
130A01PBP-N037	6	-0.6	N/A	N/A
130A01PBP-N038	6	-0.6	N/A	N/A
130A01PBP-N039	6	0.9	N/A	N/A
130A01PBP-N040	6	0.9	N/A	N/A
130A01PBP-N041	6	-0.6	N/A	N/A
130A01PBP-N042	6	-0.6	N/A	N/A
130A01PBP-N043	6	-0.6	N/A	N/A
130A01PBP-N044	6	-0.6	N/A	N/A
130A01PBP-N045	6	-0.6	N/A	N/A
130A01PBP-N046	6	-0.6	N/A	N/A
130A01PBP-N047	6	-0.6	N/A	N/A
130A01PBP-N048	6	-0.6	N/A	N/A
130A01PBP-N049	6	2.4	N/A	N/A

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T130A Interior, all surfaces

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
130A01PBP-N050	6	0.9	N/A	N/A
130A01PBP-N051	6	-0.6	N/A	N/A
130A01PBP-N052	6	-0.6	N/A	N/A
130A01PBP-N053	6	-0.6	N/A	N/A
130A01PBP-N054	6	-0.6	N/A	N/A
130A01PBP-N055	6	0.9	N/A	N/A
130A01PBP-N056	6	-0.6	N/A	N/A
130A01PBP-N057	6	2.4	N/A	N/A
130A01PBP-N058	6	-0.6	N/A	N/A
130A01PBP-N059	6	-0.6	N/A	N/A
130A01PBP-N060	6	-0.6	N/A	N/A
130A01PBP-N061	6	-0.6	N/A	N/A
130A01PBP-N062	9	1.2	N/A	N/A
130A01PBP-N063	9	-0.3	N/A	N/A
130A01PBP-N064	9	1.2	N/A	N/A
130A01PBP-N065	9	-0.3	N/A	N/A
130A01PBP-N066	9	-0.3	N/A	N/A
130A01PBP-N067	9	-0.3	N/A	N/A
130A01PBP-N068	9	1.2	N/A	N/A
130A01PBP-N069	9	-0.3	N/A	N/A
130A01PBP-N070	9	1.2	N/A	N/A
130A01PBP-N071	9	-0.3	N/A	N/A
130A01PBP-N072	9	-0.3	N/A	N/A

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T130A Interior, all surfaces

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
130A01PRP-N001	5	31.3	N/A	N/A
130A01QRP-N001	8	18.3	N/A	N/A
130A01PRP-N002	5	1.3	N/A	N/A
130A01PRP-N003	2	9.5	N/A	N/A
130A01PRP-N004	5	15.5	N/A	N/A
130A01PRP-N005	2	3.2	N/A	N/A
130A01PRP-N006	2	-2.6	N/A	N/A
130A01PRP-N007	5	-5.4	N/A	N/A
130A01PRP-N008	5	20.3	N/A	N/A
130A01PRP-N009	2	21.1	N/A	N/A
130A01PRP-N010	2	3.2	N/A	N/A
130A01PRP-N011	5	7.4	N/A	N/A
130A01QRP-N011	7	3.1	N/A	N/A
130A01PRP-N012	5	-5.4	N/A	N/A
130A01PRP-N013	4	3.5	N/A	N/A
130A01PRP-N014	2	12.2	N/A	N/A
130A01PRP-N015	5	17.0	N/A	N/A
130A01PRP-N016	4	28.1	N/A	N/A
130A01PRP-N017	2	3.2	N/A	N/A
130A01PRP-N018	5	1.3	N/A	N/A
130A01PRP-N019	2	-2.6	N/A	N/A
130A01PRP-N020	2	21.1	N/A	N/A
130A01PRP-N021	2	3.2	N/A	N/A
130A01PRP-N022	2	3.2	N/A	N/A

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T130A Interior, all surfaces

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
130A01PBP-N023	1	-4.0	N/A	N/A
130A01PBP-N024	1	-2.1	N/A	N/A
130A01PBP-N025	1	-0.7	N/A	N/A
130A01PBP-N026	1	7.4	N/A	N/A
130A01PBP-N027	1	7.4	N/A	N/A
130A01PBP-N028	1	8.8	N/A	N/A
130A01PBP-N029	1	5.5	N/A	N/A
130A01PBP-N030	1	8.8	N/A	N/A
130A01PBP-N031	1	5.5	N/A	N/A
130A01PBP-N032	1	12.2	N/A	N/A
130A01PBP-N033	1	4.1	N/A	N/A
130A01PBP-N034	4	11.3	N/A	N/A
130A01PBP-N035	4	-7.0	N/A	N/A
130A01PBP-N036	4	2.1	N/A	N/A
130A01PBP-N037	4	14.0	N/A	N/A
130A01PBP-N038	4	11.3	N/A	N/A
130A01PBP-N039	4	20.4	N/A	N/A
130A01PBP-N040	4	8.1	N/A	N/A
130A01PBP-N041	4	8.1	N/A	N/A
130A01PBP-N042	4	8.1	N/A	N/A
130A01PBP-N043	4	2.1	N/A	N/A
130A01PBP-N044	4	15.8	N/A	N/A
130A01PBP-N045	4	8.1	N/A	N/A
130A01PBP-N046	4	8.1	N/A	N/A
130A01PBP-N047	4	2.1	N/A	N/A
130A01PBP-N048	4	2.1	N/A	N/A
130A01PBP-N049	4	14.0	N/A	N/A

Survey Area: 5	Survey Unit: 130A01	Building: T130A

Description: T130A Interior, all surfaces

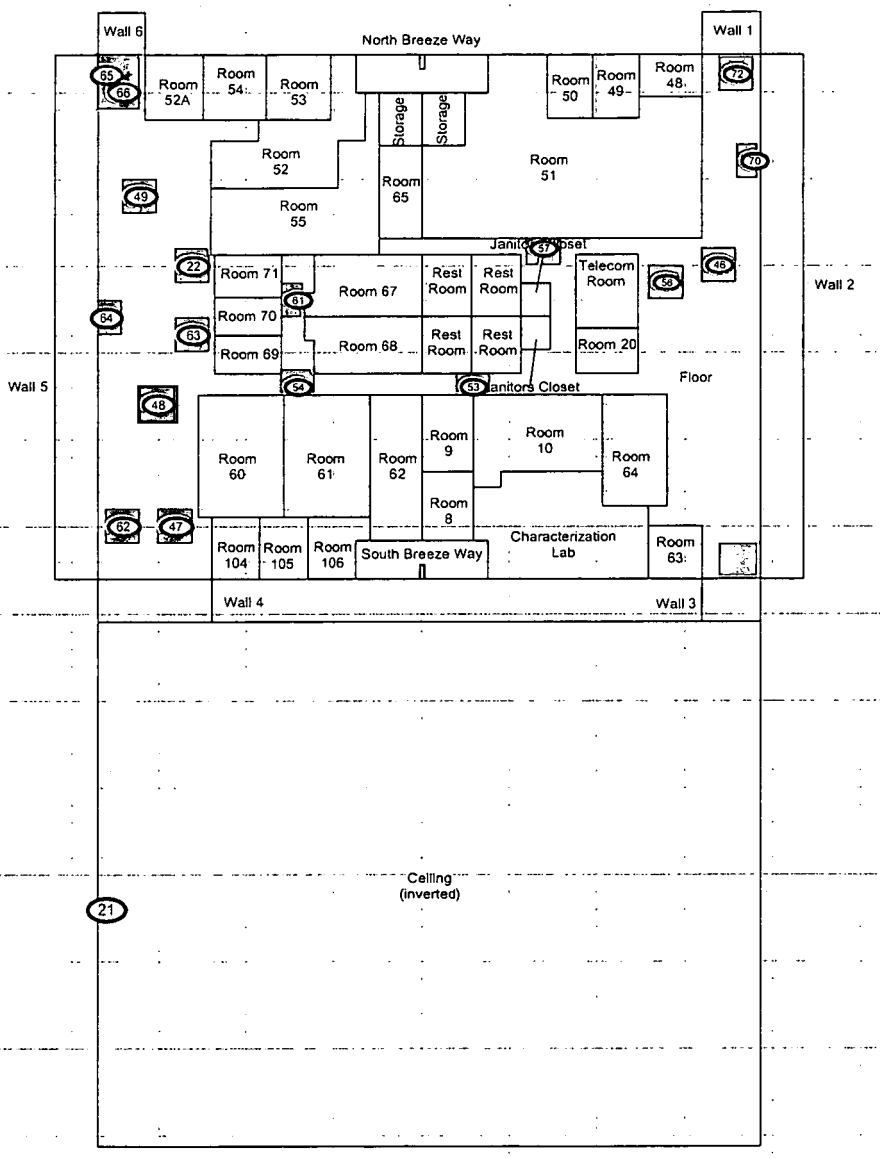
Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
130A01PBP-N050	4	-1.1	N/A	N/A
130A01PBP-N051	5	-0.7	N/A	N/A
130A01PBP-N052	5	-6.9	N/A	N/A
130A01PBP-N053	5	-10.2	N/A	N/A
130A01PBP-N054	5	-0.7	N/A	N/A
130A01PBP-N055	5	21.7	N/A	N/A
130A01PBP-N056	5	-4.0	N/A	N/A
130A01PBP-N057	5	-6.9	N/A	N/A
130A01PBP-N058	5	-6.9	N/A	N/A
130A01PBP-N059	5	2.7	N/A	N/A
130A01PBP-N060	4	-4.3	N/A	N/A
130A01PBP-N061	5	-0.7	N/A	N/A
130A01PBP-N062	7	13.8	N/A	N/A
130A01PBP-N063	8	-1.1	N/A	N/A
130A01PBP-N064	7	-1.2	N/A	N/A
130A01PBP-N065	8	11.3	N/A	N/A
130A01PBP-N066	8	-1.1	N/A	N/A
130A01PBP-N067	7	4.7	N/A	N/A
130A01PBP-N068	7	2.0	N/A	N/A
130A01PBP-N069	8	2.1	N/A	N/A
130A01PBP-N070	7	-4.3	N/A	N/A
130A01PBP-N071	8	14.0	N/A	N/A
130A01PBP-N072	7	7.9	N/A	N/A

RECONNAISSANCE LEVEL SURVEY FOR T130A

Survey Area: 5 Survey Unit: 130A01 Classification: 3
Building: T130A
Survey Unit Description: T130A (Interior) all surfaces
Total Area: 4653 sq. m. Total Floor Area: 1406 sq. m.

T130A Interior



Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 45
0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

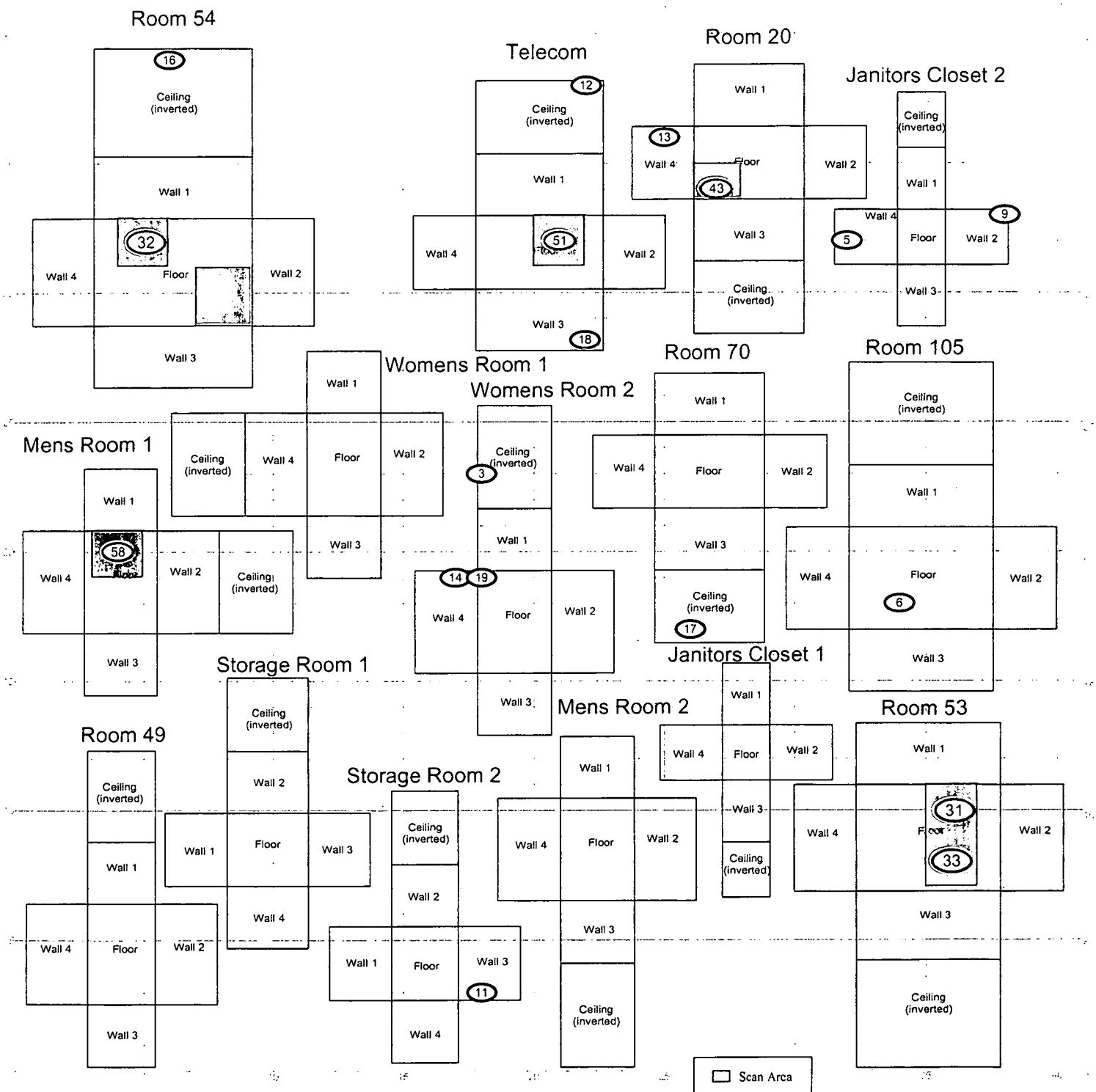
CH2MHILL Communications Group

KAISER-HILL COMPANY

MAP ID: 03-0085\T130A PG1_SC June 22, 2005

RECONNAISSANCE LEVEL SURVEY FOR T130A

Survey Area: 5 Survey Unit: 130A01 Classification: 3
Building: T130A
Survey Unit Description: T130A (Interior) all surfaces
Total Area: 4653 sq. m. Total Floor Area: 1406 sq. m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

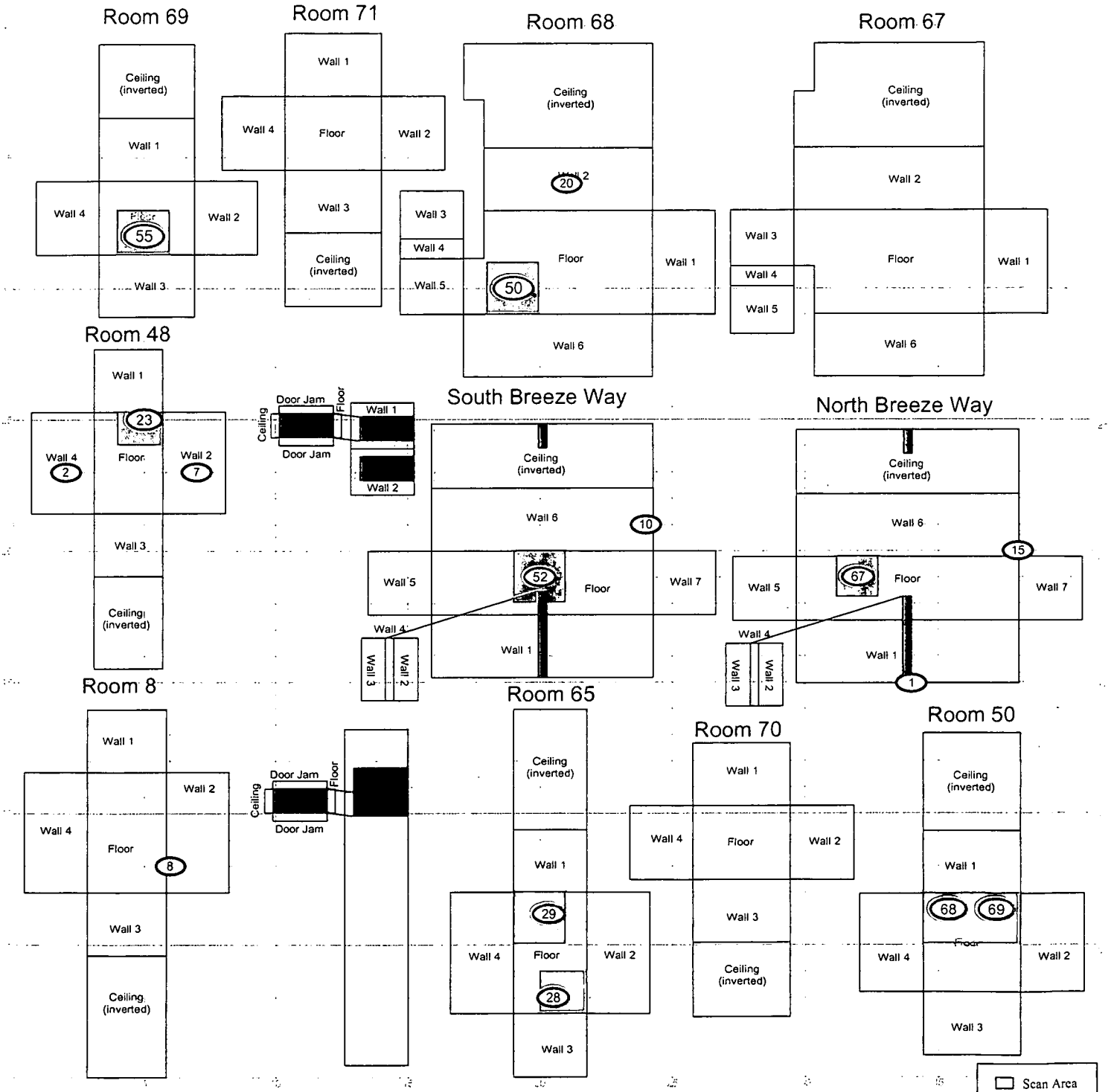
KAISER-HILL COMPANY

MAP ID: 03-0085\T130A_PG2_SC June 23, 2005

32

RECONNAISSANCE LEVEL SURVEY FOR T130A

Survey Area: 5 Survey Unit: 130A01 Classification: 3
Building: T130A
Survey Unit Description: T130A (Interior) all surfaces
Total Area: 4653 sq. m. Total Floor Area: 1406 sq. m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

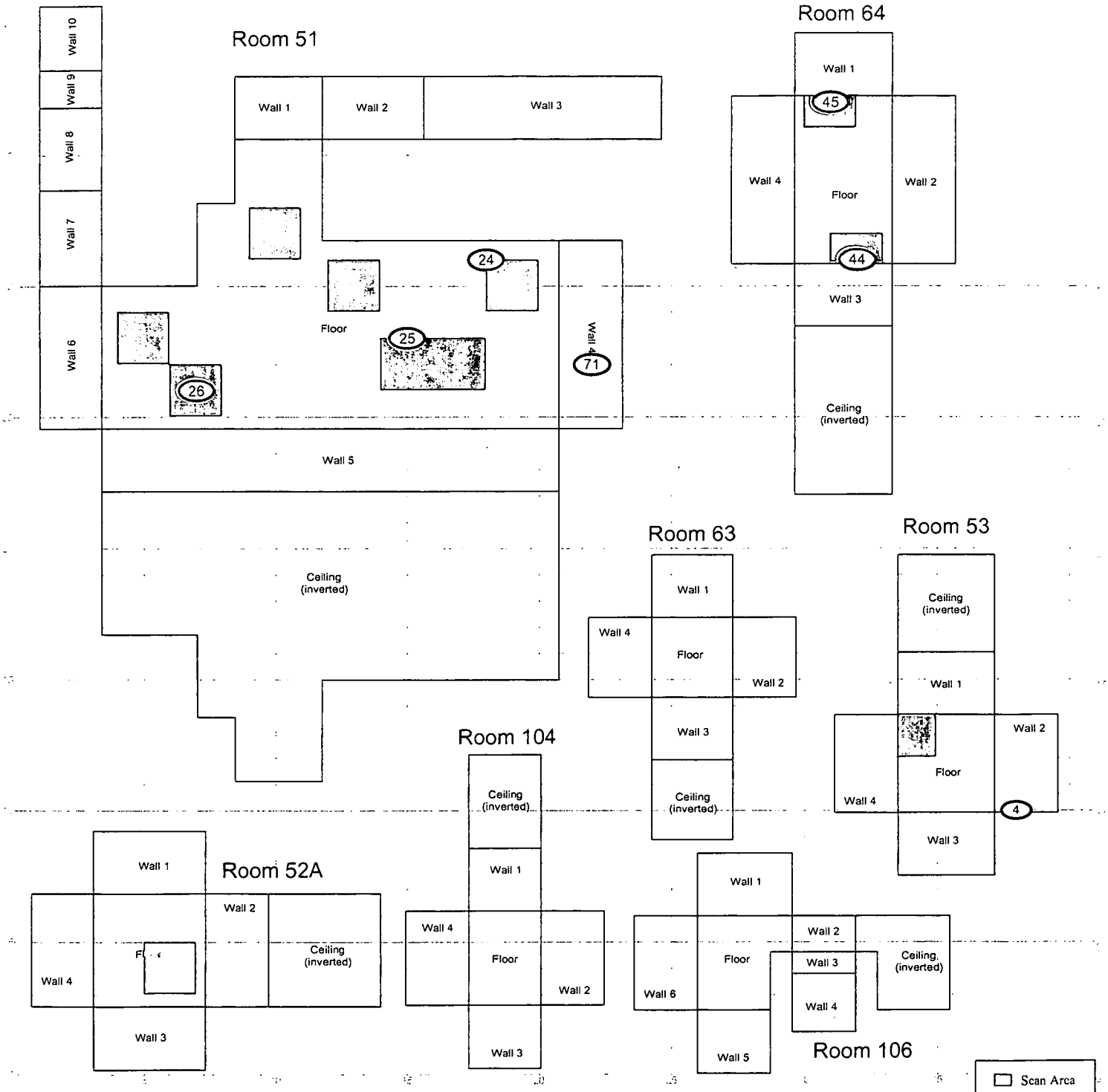
KAISER-HILL COMPANY

MAP ID: 03-0085\T130A_PG3_SC June 23, 2005

33

RECONNAISSANCE LEVEL SURVEY FOR T130A

Survey Area: 5 Survey Unit: 130A01 Classification: 3
Building: T130A
Survey Unit Description: T130A (Interior) all surfaces
Total Area: 4653 sq. m. Total Floor Area: 1406 sq. m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

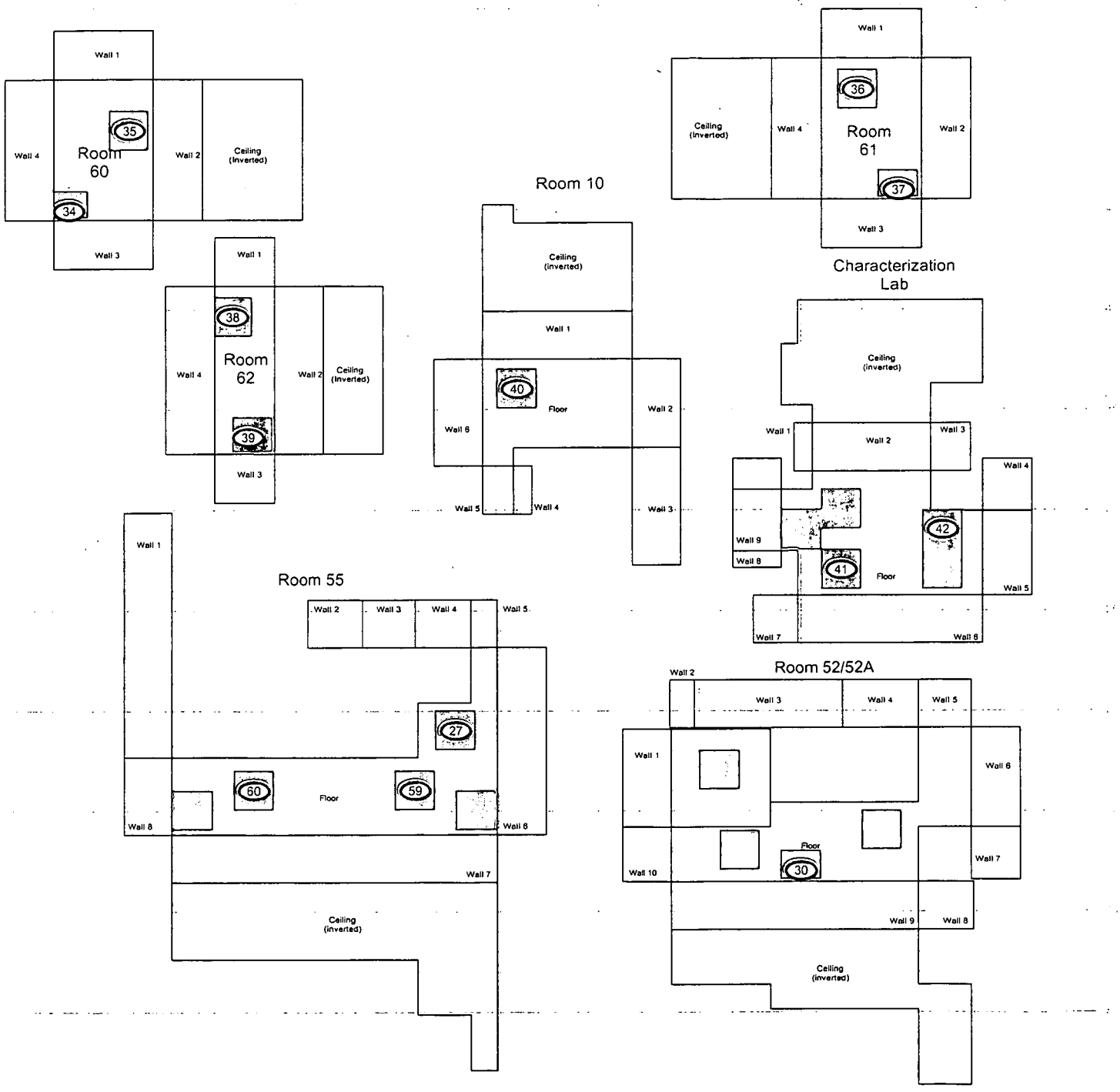
CH2MHILL Communications Group

KAISER HILL COMPANY

MAP ID: 03-0085\T130A_PG4_SC June 23, 2005

RECONNAISSANCE LEVEL SURVEY FOR T130A

Survey Area: 5 Survey Unit: 130A01 Classification: 3
Building: T130A
Survey Unit Description: T130A (Interior) all surfaces
Total Area: 4653 sq. m. Total Floor Area: 1406 sq. m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 30
0 METERS 10

1 inch = 24 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER-HILL COMPANY

MAP ID: 03-0085\T130A_PG5_SC June 23, 2005

ATTACHMENT D

Chemical Data Summaries and Sample Maps

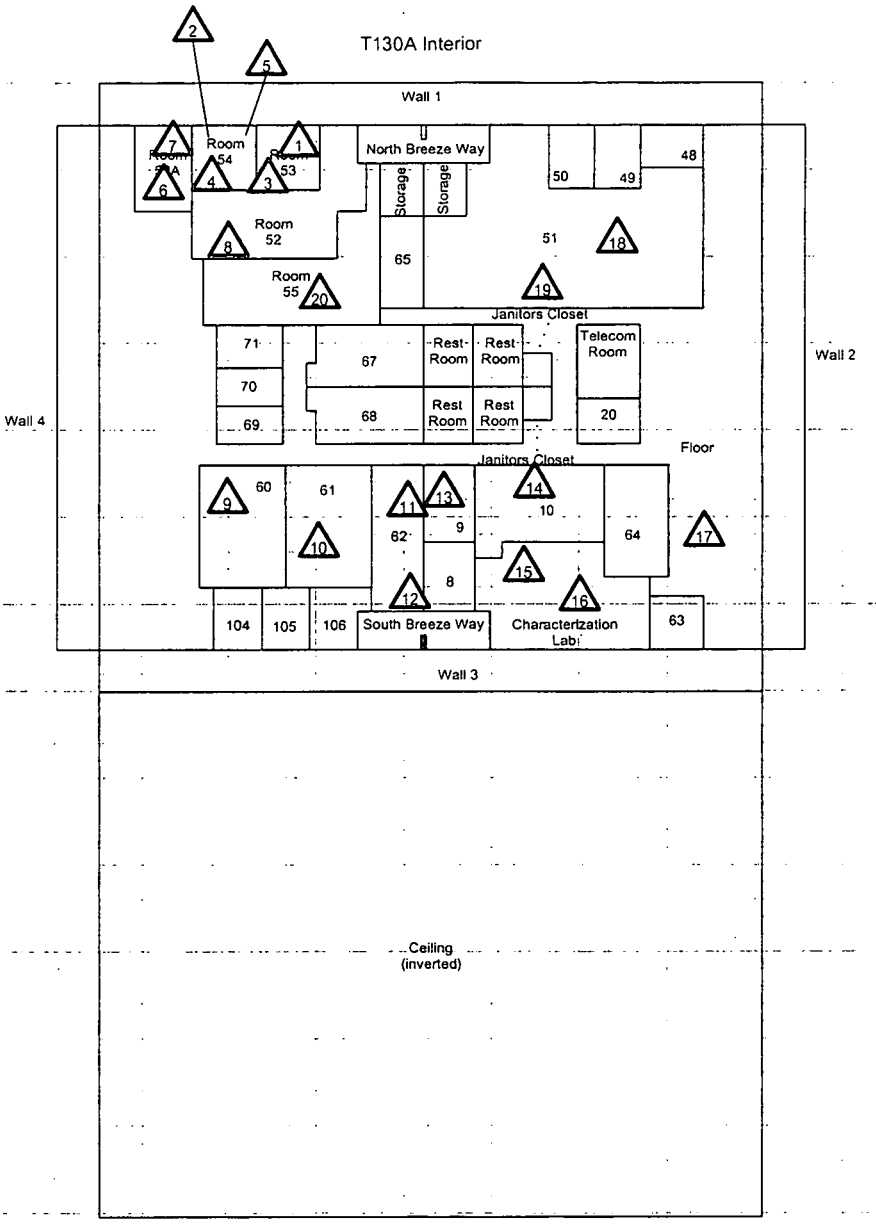
Beryllium Data Summary

Sample Number	Map Survey Point Location	Sample Location	Result ($\mu g/100\ cm^2$)
Trailer T130A – RIN 05B0127, Biased Samples			
T130A-06152005-214-001	1	Room 53, bench counter top	< 0.1
T130A-06152005-214-002	2	Room 54, bench counter top	< 0.1
T130A-06152005-214-003	3	Room 53, floor below work bench	< 0.1
T130A-06152005-214-004	4	Room 54, floor below work bench	< 0.1
T130A-06152005-214-005	5	Room 54, inside hood	< 0.1
T130A-06152005-214-006	6	Room 52A, top of air filter counter	< 0.1
T130A-06152005-214-007	7	Room 52A, air filter counter shelf	< 0.1
T130A-06152005-214-008	8	Room 52, top of cabinet	< 0.1
T130A-06152005-214-009	9	Room 60, top of lab bench	< 0.1
T130A-06152005-214-010	10	Room 61, top of detector bench	< 0.1
T130A-06152005-214-011	11	Room 62, floor	< 0.1
T130A-06152005-214-012	12	Room 62, top of detector bench	< 0.1
T130A-06152005-214-013	13	Room 9, airlock floor	< 0.1
T130A-06152005-214-014	14	Room 10, sink top	< 0.1
T130A-06152005-214-015	15	Room 1, top of ductwork	< 0.1
T130A-06152005-214-016	16	Room 1, floor	< 0.1
T130A-06152005-214-017	17	Room 64, top of cabinet	< 0.1
T130A-06152005-214-018	18	Room 51, sample receiving table top	< 0.1
T130A-06152005-214-019	19	Room 51, sample receiving floor	< 0.1
T130A-06152005-214-020	20	Room 55, top of storage shelf	< 0.1

37

CHEMICAL SAMPLE MAP

Building T130A
Beryllium



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 45

0 METERS 15

1 inch = 36 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

CH2MHILL Communications Group

Prepared for: KAISER HILL COMPANY

MAP ID: 03-0085\T130A_BE

July 27, 2005

ATTACHMENT E

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically beryllium).

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed; the radiological survey assessment is provided in Table E-1 and beryllium in E-2. A data completeness summary for all results is given in Table E-3.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project Files. This report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Beta/gamma survey designs were not implemented for Trailer T130A based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Survey designs were implemented based on the transuranic limits used as DCGLs in the unrestricted release decision process. All survey results were evaluated against, and were less than the Transuranic $DCGL_w$ (100 dpm/100cm^2) and the Uranium $DCGL_w$ (5,000 dpm/100cm^2) unrestricted release limits.

Consistent with EPA's G-4 DQO process, the radiological survey design (for those survey units performed per PDS requirements) was optimized by checking actual measurement results (acquired during pre-demolition surveys) against model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable certainties.

40

Based upon an independent review of the radiological data, it was determined that the original project DQOs satisfied MARSSIM guidance. All facility contamination levels were below applicable unrestricted release levels. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable procedures, survey units were properly designed and bounded, and instrument performance and calibration were within acceptable limits thereby ensuring accuracy criteria. All results meet the PDS unrestricted release criteria.

Chain of Custody was intact; documentation was complete, hold times were acceptable (where applicable,) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 2 Isolation Controls have been posted to prevent the inadvertent introduction of contamination into the facility. On this basis, Trailer T130A meets the unrestricted release criteria with the confidences stated herein and can be demolished.

Table E-1 V&V of Radiological - Trailer T130A

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		
QUALITY REQUIREMENTS				
	Parameters	Measure	frequency	COMMENTS
ACCURACY	initial calibrations	90%<x<110%	≥1	Multi-point calibration through the measurement range encountered in the field; programmatic records.
	daily source checks	80%<x<120%	≥1/day	Performed daily/within range.
	local area background: Field	typically < 10 dpm	≥1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies.)
PRECISION	field duplicate measurements for TSA	≥5% of real survey points	≥10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology: Survey Unit 130A01 (interior) and EXT-B-001 (exterior).	statistical and biased	NA	Random w/ statistical confidence.
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files); thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	units of measure	dpm/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys usable results vs. unusable	>95% >95%	NA	See Table E-3 for details.
SENSITIVITY	detection limits	TSA: ≤50 dpm/100cm^2 RA: ≤10 dpm/100cm^2	all measures	MDAs ≤ 50% $DCGL_w$ per MARSSIM guidelines (RLC performed to PDS requirements).

Table E-2 V&V of Beryllium - Trailer T130A

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	Johns Manville Corp. Littleton, Co.	
QUALITY REQUIREMENTS		RIN ---->	RIN 05B0127	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations Initial	linear calibration	≥1	All results were below associated action levels.
	Continuing	80%<%R<120%	≥1	
	LCS/MS	80%<%R<120%	≥1	
	Blanks - lab & field	<MDL	≥1	
	interference check std (ICP)	NA	NA	
PRECISION	LCSD	80%<%R<120% (RPD<20%)	≥1	
	field duplicate	all results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	measurement units	ug/100cm^2	NA	
COMPLETENESS	Plan vs. Actual samples usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	detection limits	MDL of 0.012 ug/100cm^2	all measures	

Table E-3 Data Completeness Summary - Trailer T130A

ANALYTE	Building/Area/ Unit	Sample Number Planned (Real & QC)	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Beryllium	Trailer T130A (interior)	20 biased (interior)	20 biased (interior)	No beryllium contamination found, all results are below associated action levels	OSHA ID-125G RIN 05B0127 No results above action level (0.2ug/100cm^2) or investigative level (0.1 ug/100cm^2).
Radiological	Survey Area 5 Class 3 Survey Unit: 130A01 Trailer T130A – All Surfaces (interior)	72 α TSA (22 random/50 biased) and 72 α Smears (22 random/50 biased) 2 QC TSA 5% scan on all interior surfaces	72 α TSA (22 random/40 biased) and 72 α Smears (22 random/40 biased) 2 QC TSA 5% scan on all interior surfaces; additional scan surveys were performed in the sample receiving and shipping area and in the labs on the horizontal surfaces such as desks, work benches, countertops and inside ventilation hoods.	No contamination found at any location; all values below PDS unrestricted release limits	Transuranic DCGLs used.